

AMENDMENT

IN THE CLAIMS:

Claims 1-8 (cancelled).

Claim 9 (original): An apparatus which broadcasts information comprises:

a re-broadcast interval determiner, in response to: (a) information representing a duration of a work being re-broadcast, and (b) information representing a number of re-broadcast offset channels, generates information representing a duration of a re-broadcast interval ("RBI");

a work streamer, in response to: (a) the information representing a duration of a work being re-broadcast, (b) the information representing a number of re-broadcast offset channels, and (c) the RBI, accesses a storage device, and applies: (a) a time-division multiplexed composite signal of a work and (b) a stream of information that provides a playback position and time offset of each time-offset re-broadcast stream of the work as input to a multicaster;

wherein the multicaster, in response to the time-division multiplexed composite signal and client control and destination information, broadcasts the work;

a time-scaled leader duration determiner, in response to: (a) the RBI, (b) information representing a time-scale expansion rate, and (c) information representing a time-scale compression rate, outputs: (a) maximum time intervals of the work used to create time-scale compressed leaders and time-scale expanded leaders, and (b) speedfactors used to create time-scale compressed and time-scale expanded leaders, and applies the maximum time intervals and the speedfactors as input to a time-scale modification system;

wherein the time-scale modification system, in response to the maximum time intervals, the speedfactors, and the work, produces a time-scale compressed leader or a time-scale expanded leader and stores the time-scale compressed leader or the time-scale expanded leader on the storage device;

a request processor, in response to requests for the work from clients, outputs information identifying clients and re-broadcast control information to a stream assignment system;

a time-scale expanded leader streamer, in response to (a) information representing a duration of a leader re-broadcast interval ("LRBI") from a leader rebroadcast interval determiner; (b) information representing a number of time-division multiplexed ("TDM") channels for a time-scale expanded leader from the leader re-broadcast interval determiner; (c) information representing a duration of the time-scale expanded leader being re-broadcast from the leader re-broadcast interval determiner or the time-scaled leader duration determiner; (d) start times of re-broadcast offset streams of the work from the leader re-broadcast interval determiner; and (e) data for the work from the storage device, and outputs: (a) a time-division multiplexed composite signal of time-scale expanded leader segments, and (b) leader-offset-stream information giving a playback position and time-offset for each time-offset re-broadcast stream of the time-scale expanded leader to the stream assignment system;

a time-scale compressed leader streamer, in response to: (a) the LRBI from the leader re-broadcast interval determiner; (b) information representing a number of TDM channels for a time-scale compressed leader from the leader re-broadcast interval determiner; (c) information representing a duration of the time-scale compressed leader being re-broadcast from the leader re-broadcast interval determiner or the time-scaled leader duration determiner; (d) start times of re-broadcast offset streams of the work from the leader re-broadcast interval determiner; and (e) data for the work from the storage device, and outputs: (a) a time-division multiplexed composite signal of time-scale compressed leader segments, and (b) leader-offset-stream information giving a playback position and time-offset for each time-offset re-broadcast stream of the time-scale compressed leader to the stream assignment system;

wherein the leader re-broadcast interval determiner, in response to: (a) information representing the duration of the time-scale compressed and time-scale expanded leaders from the time-scaled leader duration determiner; (b) information representing a number of leader re-broadcast offset channels from the re-broadcast interval determiner, and (c) the RBI from the re-broadcast interval determiner, generates: (a) the LRBI, (b) information representing the number of TDM channels for a time-scale expanded leader and a time-scale compressed leader, (c) information representing the duration of the time-scale expanded leader and the time-

scale compressed leader being re-broadcast; and (d) start times of re-broadcast offset streams of the work;

a time-scale compressed leader multicaster, in response to: (a) the composite signal of time-scale compressed leader segments from the time-scale compressed leader streamer and (b) client control and destination from the stream assignment system, multicast the time-scale compressed leader segments;

a time-scale expanded leader multicaster, in response to: (a) the composite signal of time-scale expanded leader segments from the time-scale expanded leader streamer and (b) client control and destination information from the stream assignment system, multicast the time-scale compressed leader segments;

wherein the stream assignment system, in response to: (a) the information identifying clients and re-broadcast control information, and (b) the leader-offset-stream information from the time-scale expanded leader streamer and the time-scale compressed leader streamer or from the leader re-broadcast interval determiner, determines a temporally closest leader-offset-stream for the appropriate time-scale modified leader offset stream, and outputs: (a) control information to the time-scale compressed leader multicaster or the time-scale expanded leader multicaster which information directs the time-scale compressed leader multicaster or the time-scale expanded leader multicaster to add the requesting client to the list of destinations for the appropriate time-scale modified leader offset stream segments being re-broadcast, and (b) intercept information to the multicaster and the time-scale compressed leader multicaster or the time-scale expanded leader multicaster which intercept information conveys client identification and control information and an intercept-time for a corresponding time-scale modified leader offset stream to an offset stream of the work;

in response to the intercept information, the time-scale compressed leader multicaster and the time-scale expanded leader multicaster note the intercept-time and schedule deletion of the requesting client from a list of multicast recipients of the time-scale modified leader offset stream after the intercept-time, and the multicaster notes the intercept-time and schedules an addition of the requesting client to the list of multicast recipients of that offset stream of the work after the intercept-time.

Claim 10 (original): The apparatus of claim 9 wherein the re-broadcast interval determiner determines the RBI as equal to the duration of the work divided by the number of re-broadcast offset channels.

Claim 11 (original): The apparatus of claim 9 wherein the maximum time interval of the work that will be required for time-compressed leaders is given by $(RBI/2)(Speed/(Speed - 1))$ and $Speed = 1/\text{time-compression factor}$.

Claim 12 (original): The apparatus of claim 9 wherein the maximum time interval of the work that will be required for time-expansion leaders is given by $(RBI/2)(Speed/(Speed - 1))$ and $Speed = 1/\text{time-expansion factor}$.

Claim 13 (original): The apparatus of claim 9 wherein $LRBI = RBI/\text{No. of leader re-broadcast offset channels}$.

Claim 14 (original): The apparatus of claim 9 wherein the stream assignment system determines a temporally closest leader-offset-stream by computing distances, forward and backward, in time from an arrival time of a client's request to view the work, to a previous time-scale modified leader-offset-stream start time and a next time-scale modified leader-offset-stream start time, and choosing a smaller of the two as a temporally closest leader-offset-stream.